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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/353,906	07/15/1999	EMRE GUNDUZHAN	2204/188	4271

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BROMBERG & SUNSTEIN LLP  
125 SUMMER STREET  
BOSTON, MA 02110-1618

EXAMINER

OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 04/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/353,906

Applicant(s)

GUNDUZHAN, EMRE

Examiner

Michael N. Opsasnick

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

DETAILED ACTION

*Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeldener (5890108) in view of Shoham (5699485).

As per claims 1,11,21, and 22, Yeldener (5890108) teaches a method for generating a new audio segment....based on a plurality of audio segments (abstract lines 1-7), the method comprising:

“locating a set of consecutive audio segments.....having a formant” as processing each frame (col. 4 lines 10-15);

“removing the formant.....having a pitch” as extracting LPC features (col. 4 lines 15-20)

“processing the pitch.....residue segments” as extracting LSF features (col. 4 lines 21-30)

“adding the formant.....output audio segment” as using these features to regenerate the signal, and for interpolation, col. 4 lines 10-35.

Yeldener (5890108) does not explicitly teach tracking unascertainable (ie., missing, bad) audio segments, however, Shoham teaches tracking lost frames and using previous information to regenerate such information (col. 2 lines 57-67). Therefore, it would have been obvious to one of ordinary skill in the art of audio signal processing to modify the teachings of Yeldener (5890108) with lost frame tracking and recovery techniques as taught by Shoham (5699485) because it would advantageously improve the reliability of the recovered speech information (Shoham, col. 2 lines 50-60).

As per claims 2,12, and 23, Yeldener (5890108) teaches tracking the audio segments (Nth sample) during nonascertainable voice (col. 20 lines 10-40)

As per claims 3,13, and 24, Yeldener (5890108) teaches speech data packets (col. 6 lines 62-65)

As per claims 4,14, and 25, Yeldener (5890108) teaches determining the pitch of the set of residues (as pitch estimates; col. 11 lines 6-45)

As per claim 5,15, Yeldener (5890108) teaches formant removal using LPC (col. 11, lines 25-45)

As per claims 6,16, Yeldener (5890108) teaches pitch and residue segments using LPC (col. 7 lines 40-50)

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As per claims 7,17, and 27, Yeldener (5890108) teaches the formant having a variable value (as LSF's formula varies over the segment -- col. 20 lines 25-40)

As per claims 8,18, and 28, Yeldener (5890108) teaches overlap add operations (fig. 8 subblock 580)

As per claims 9,19 and 29, Yeldener (5890108) teaches scaling the overlap/audio segment to produce a scaled audio segment as weighting the filtered signal (col. 20 lines 61-66

As per claim 10, Yeldener (5890108) teaches adding the output audio segment to the audio signal in place of the given audio segment as interpolating between the audio segments (and replacing the boundary (abstract, line 19-25).

As per claim 26, Yeldener (5890108) teaches inverse filtering (col. 21 lines 48-67).

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1,11 have been considered but are moot in view of the new ground(s) of rejection.

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***Conclusion***

**4. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Marsha Banks-Harold, can be reached at (703)305-4379. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno

4/11/02

*Nijay Bhattacharya*  
4/14/02